REMARKS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 29, 31 and 34-48 are pending in the present application. Claims 30 and 32-33 have been cancelled.

In the outstanding Official Action, claims 30 and 32-33 were rejected under 35 U.S.C. §112, first paragraph, for allegedly not satisfying the enablement requirement. Applicants believe that the present amendment obviates this rejection.

In the interest of advancing the prosecution, claims 30 and 32-33 have been cancelled. As a result, Applicants believe that the present amendment obviates this rejection and that claims 29, 31 and 34-48 satisfy the requirements of 35 U.S.C. §112, first paragraph.

Claims 29-36, 38-44 and 46-48 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by VAN GEEL-SCHUTTEN et al. This rejection is respectfully traversed.

In imposing the rejection, the Official Action contends that the publication discloses a glycosyltransferase also known as glucansucrase isolated from *L. reuteri*. However, VAN GEEL-SCHUTTEN et al. only refers to "extracellular sucrase-type enzymes" and to "glycosyltransferase enzymes" in even the most detailed description of these enzymes. Indeed, the publication does not even mention the term glucansucrase and by no means

discloses the isolation of such a sucrase. Under "Enzyme localisation studies", it is found that biosynthetic enzyme(s) are present in cell-free form and in cell-associated form. However, no mention is made of isolating an enzyme from the cells or the supernatants.

Also, VAN GEEL-SCHUTTEN et al. are completely silent as to which enzymes are present in the cell extract and which ones may be present in the supernatant. VAN GEEL-SCHUTTEN et al. also do not provide any indication of how many enzymes are responsible for glucan synthesis and fructan synthesis, respectively. Thus, Applicants respectfully submit that VAN GEEL-SCHUTTEN et al. do not disclose or even suggest a (particular) glucosyltransferase protein in isolated form. While VAN GEEL-SCHUTTEN et al. may disclose compositions comprising several surcrase-type enzymes, they do not disclose or even teach a specific enzyme, and certainly not an isolated enzyme as claimed.

Thus, in view of the above, Applicants believe that VAN GEEL-SCHUTTEN et al. fails to anticipate the claimed invention. Indeed, the VAN GEEL-SCHUTTEN et al. publication fails to disclose or suggest the claimed isolated protein.

Claims 37 and 45 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over VAN GEEL-SCHUTTEN et al. in view of AUSUBEL et al. This rejection is respectfully traversed.

Applicants believe that the proposed combination of the publications fails to render obvious claims 37 and 45. In

imposing the rejection, the Official Action alleges that it would have been one skilled in the art to make a recombinant enzyme of the same by further purifying the enzyme, microsequencing said purified protein, designing a probe based on the mirosequencing data and analyzing a CDNA library of lactic acid bacteria leading to the isolation of CDNA clone and expressing such a clone to obtain a recombinant protein using the methods taught by AUSUBEL et al. Moreover, the Examiner alleges that molecular cloning is indeed common knowledge in the art. The Examiner also states that there are innumerable books and manuals that teach said techniques.

However, AUSUBEL et al. fails to disclose or suggest the claimed isolated protein. Moreover, AUSUBEL et al. provides no direction or motivation to one skilled in the art to combine and modify the VAN GEEL-SCHUTTEN et al. publication in order to obtain the claimed invention. Indeed, Applicants respectfully submit that without the claimed enzyme, which VAN GEEL-SCHUTTEN et al. does not teach, one skilled in the art cannot obtain the claimed isolated protein as set forth in claims 37 and 45. Moreover, while there may be innumerable books or manuals that teach molecular cloning techniques, Applicants note that the Patent Office does not cite to one which directs one skilled in the art to produce and isolate the claimed protein, which would help remedy this deficiency.

Indeed, it is only with the benefit of hindsight, that one can read a suggestion to develop the claimed protein in the disclosure of VAN GEEL-SCHUTTEN et al. As already noted, the VAN GEEL-SCHUTTEN et al. article is extremely vague and does not enable one skilled in the art to produce the claimed protein. Applicants respectfully submit that up to and after the 1998 article, the only glucans known to be produced by a lactic acid bacteria were of the dextran-type, i.e., those exclusively having alpha-1, 6 links between the glucose units of the glucan. The present enzyme is capable of producing on it own, a glucan having both alpha-1, 4 and alpha-1, 6 bonds. This cannot be expected on the basis of the 1998 article alone. So, not only could one of ordinary skill in the art not expect a single lactobacillic enzyme to be capable of producing glucans, but expect even less so that such a glucan would contain, in addition to 1, 6 links, also 1, 4 links.

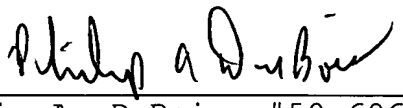
Thus in view of the above, Applicants believe that the proposed combination of publications fail to render obvious the claimed invention.

In view of the present amendment and the foregoing remarks, Applicants believe that the present application is in condition for allowance, with claims 29, 31, and 34-38 as presented. Allowance and passage to issue on that basis are accordingly respectively requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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